
Appendix B
Draft Worker Environmental Awareness
Training for the
Cosumnes Power Plant Project

COSUMNES POWER PLANT

**WORKER ENVIRONMENTAL
AWARENESS TRAINING PROGRAM**

Presented by:

**Cosumnes Power Plant
Power Generation Department
Sacramento Municipal Utility District
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[phone no]

**COSUMNES POWER PROJECT
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SMUD's Commitment

To offer the best electricity price and greatest reliability for its customers, the Sacramento Municipal Utility District (SMUD) is constructing the Cosumnes Power Project (CPP), a 1,000-megawatt (MW) power plant. SMUD is planning to build the first 500 MW plant (Phase 1) and then determine by 2003 if it will build the second 500 MW plant (Phase 2) or defer construction. The plant is being planned for a site in Sacramento County about 25 miles southeast of Sacramento. As a municipal utility, SMUD is committed to protecting environmental resources. During licensing, the project has been modified various times to implement opportunities to avoid or minimize adverse impacts to sensitive environmental resources. Through the licensing and permitting process, SMUD has committed to implement training and conditions to avoid, minimize and compensate for adverse impacts to sensitive species.

All project staff and contractors are responsible to be aware of and to implement the avoidance and minimization measures that were committed to for CPP. Knowledge and practice of these measures will be the responsibility of all on-site personnel. Violation of these protection measures could result in project delays, works shutdowns, fines and serious consequences for the responsible individuals.

This handbook provides an overview of the sensitive biological, cultural, and paleontological resources that may be affected by the Cosumnes Power project. It also includes a description of the laws, protection measures, responsibilities, and penalties associated with those resources and this project.

As part of the Worker Environmental Awareness Training Program, this handbook will summarize your understanding your responsibilities, taking the proper precautions on the job, and contacting the appropriate person when you have questions. The Biological, Cultural, and Paleontological

monitors are there to help you. Always seek their advice before doing something that may endanger sensitive biological, cultural or paleontological resources

CPP comprises two major parts, the project site and the 26-mile gas pipeline. Each has slightly different resources, but both require care and conscientious actions to protect natural resources.



<insert photo>

Open communication is a key element to the success of the Cosumnes Power Plant (CPP) project.

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Biological Resources

Sensitive Biological Resources

The CPP project site and gas pipeline comprise diverse habitats that are home to sensitive and protected plants and animals. Seasonal wetlands, vernal pools, large oak trees and valley elderberry shrubs are some of the projected resources. The project also crosses area that are habitat for the vernal pool fairy shrimp, giant garter snake, Swainson's hawk, burrowing owl and valley elderberry longhorn beetle.

Protected Raptors and Nesting Birds

Swainson's hawk, burrowing owls, waterfowl and songbirds may occur within the project construction area. Swainson's hawks are sensitive to disturbance, and the project is required to maintain 0.5 mile buffer from active nests. Burrowing owls, tricolored blackbirds, waterfowl and all songbirds are protected under the Migratory Bird Treaty Act, and California Fish and Game Code.

Work areas will be surveyed for nesting birds prior to construction. If an active nest is found, the immediate area may be temporarily off limits. Be sure to get clearance from the Biological Monitor before initiating work in a new area or prior to tree trimming and removal.

Burrowing owls are named for the habit of nesting underground. Burrowing owls will take over squirrel burrows and enlarge them to raise a clutch of 3-5 young from about March to July. Agricultural and residential development have limited owls to marginal areas such as railroad track berms and roadsides. Owls generally prefer short grass or barren areas, and can be difficult to see. The biologist will survey ahead of construction to identify locations where owls could be nesting, and the project would be required to maintain a 250-foot buffer around any active

nests. Be aware around berms and barren areas of small ground-nesting birds and report them to the biological monitor.



** Report burrowing owl sightings to the Biological Monitor.*

Vernal Pools and Seasonal Wetlands

Vernal pools are shallow depressions that catch and hold water during the rainy season and into early spring. Because most introduced plants do not thrive in an inundated state,

vernal pools support a diverse plant and animal community that is unique to California (endemic). Many species that occupy vernal pools are listed as threatened or endangered (for example vernal pool fairy shrimp and tadpole shrimp). Plants and animals that live in vernal pools and seasonal wetlands reproduce and grow during the wet season, and exist as seeds or cysts in the soil during the dry season. During the dry season they are vulnerable to crushing or burial that would reduce their ability to survive.

Vernal pools and wetlands that are within the construction corridor have been mapped, measured and will be compensated for through payment of fees and creation of new habitat. However, pools near the edges of construction are to be avoided. For this reason it is important to keep all construction within the designated corridor. Wetlands near the corridor will be fenced and flagged to assist constructors to identify these locations.

Valley Elderberry Longhorn Beetle

The Valley Elderberry Longhorn Beetle lays its eggs only on the elderberry shrub. Elderberry shrubs occur near the Cosumnes River and very close to the pipeline near Elk Grove Boulevard. CPP has committed to protecting these shrubs and as much buffer around them as possible. Please comply with this buffer.

Giant Garter Snake

The giant garter snake inhabits marshes, ponds, and agricultural wetlands such as irrigation and drainage canals and the adjacent uplands. Essential habitat components consist of (1) adequate water during the snake's active period (i.e., early spring through mid-fall) to provide a prey base and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat; (3) upland habitat for basking, cover, and retreat sites; and (4) higher elevation uplands for cover and refuge from flood waters. There are __ areas designated as potential giant garter snake habitat where SMUD has agreed to implement specific measures to reduce the potential for adverse impacts.

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The USFWS generally considers any giant garter snake within 200 feet of habitat to potentially affect giant garter snakes. The following protection measures for giant garter snake will be implemented to minimize potential adverse impacts to giant garter snakes.

1. Preconstruction field sweeps will be conducted in project construction areas where suitable habitat occurs, 24 hours before earth-moving activities begin. If giant garter snakes are found during the sweep, the designated biologist will make noise and vibrations to repel snakes from the construction area and notify the USFWS of the sighting. Removal of snakes will only be conducted with agency authorization by authorized biologists.
2. A biologist approved by the USFWS will be on-site during construction activities in areas where snakes are found.
3. Pipeline trenches will be designed with appropriate trench egress to prevent snakes from becoming trapped. If a snake should become trapped, the designated biologist will notify the USFWS and with authorization and/or assistance remove the snake and relocate it to a safe area.

CPP will trench and auger within 200 feet of waterways only from May through September, unless otherwise approved by USFWS.

Avoid and do not disturb any and all snakes, frogs, salamanders, and turtles.

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Biological Monitors

The CPP Biological Monitors will be on-site during earthwork activities and will clear areas before any and all ground disturbance begins. The Biological Monitors will have the authority to stop work if any violation of mitigation measures occurs in the project area. Mitigation measures for the project are described in the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), available for review with the CPP Compliance Monitor.

Duties of the Biological Monitor:

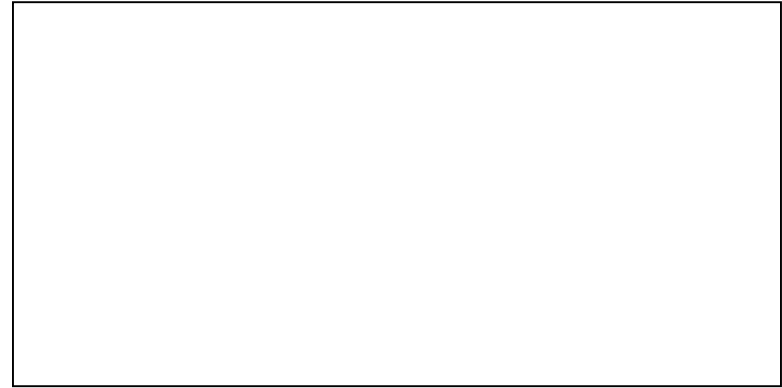
- Supervise construction in sensitive habitat areas to monitor compliance with mitigation measures.
- Advise SMUD on how best to avoid adverse impacts to biological resources.
- Assist the construction engineer in preparing construction zone limits in sensitive habitats.
- Notify SMUD of non-compliance and the corrective actions taken, and advise the construction and operations engineer when to resume construction.
- Notify on-site personnel if there are any changes in the plan.
- Submit monthly and annual reports to the CEC Compliance Project Manager (CPM) that documents implementation of the Conditions of Certification.

<insert photo>

Remember: The Biological Monitor is required to stop work if construction activities are non-compliant.

The following agencies have regulatory authority in the area and will also monitor construction activities. They could be on site at any time:

- City and County Officials
- California Energy Commission
- California Department of Fish and Game
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency



<insert photo>

** Stay out of exclusion zones. They protect wetlands and sensitive habitats.*

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General Work Practices

- Stay in approved work areas (construction zone limits) and on approved access roads.
- Keep out of exclusion areas such as creeks and wetlands. These areas will be marked with flagging and signs.
- Inspect open trenches for wildlife each morning before starting work.
- Do not litter.
- No pets, firearms, hunting or fires.
- Smoke only in cleared areas or in vehicles.
- Clean up and report all hazardous material spills immediately.
- Do not discharge water into unapproved areas.
- Protect waterways and storm drains by implementing protective measures, such as silt fencing.
- Report sensitive species observations to the Biological Monitor.
- Report trapped, injured, or dead wildlife to the Biological Monitor.
- Keep all equipment and debris out of creeks, wetlands, and riparian corridors.
- Keep fluid spill containment and clean up materials readily available.
- Your participation in protecting biological resources is important to project success.

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Environmental Laws, Regulations, and Penalties

Many of the biological resources in the project area are protected by state and federal laws.

Federal Endangered Species Act: Provides protection for federal-listed threatened and endangered plant and animal species. It also prohibits the destruction of habitat critical to their recovery.

California Endangered Species Act: Similar to the federal act, it prohibits the take (hunt, pursue, catch, capture, kill) of state-listed endangered and threatened wildlife.

Migratory Bird Treaty Act: Prohibits the take or possession of migratory birds, eggs and parts

California Fish and Game Code: Prohibits take (hunt, pursue capture or kill) of protected plants and animals in California, and protects areas designated as significant habitat.

The Clean Water Act: Oversees protection of jurisdictional wetlands and waterways.



Violation of state and/or federal environmental laws can result in fines as high as \$100,000 and/or up to one year in jail. Violations can involve corporate and individual penalties.

Environmental Impacts and Mitigation Measures

Minimizing construction impacts:

- Open trenches need escape ramps so snakes, frogs, turtles, and small mammals won't get trapped.
- Minimize the need for restoration by minimizing disturbance.
- Avoid the possible disturbance of nesting birds by staying 500 feet away. Let the Biological Monitor clear the area before you begin work.
- Stormwater runoff must not contain hazardous waste or debris that could affect biological resources.

Mitigation Measures as Conditions of Certification:

- Biological Monitors must be on site or on call.
- Comply with construction zone limits to protect sensitive habitats.
- Speed limits apply to construction traffic
- Preconstruction surveys must be conducted prior to ground disturbance.
- Adhere to timing restrictions for construction near creeks and nest trees.
- Erosion control and revegetation will be implemented in all construction areas.
- Impacts to biological resources will be monitored and reported to the appropriate agencies.

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Cultural Resources

Cultural resources include prehistoric or historically important structures or objects, the location of an historic event or an area considered important to a group of people.

Cultural resources provide insight to local and regional history. Each cultural resource is unique and irreplaceable. You are being given this training because SMUD is committed to preserving California's cultural heritage.

Once a historic object or site has been destroyed, it can never be replaced. Your help is critical in saving California's cultural heritage.

Setting

California's Central Valley was inhabited as early as 12,000 years ago; prehistorically and historically, the Miwok Indians occupied the CPP area hunting big and small game and gathering important vegetal resources such as acorns.

Beginning in the late 1700s, the Indian population located in the Sacramento Valley came into contact with an entirely foreign (European) culture. Traditional life-ways were not drastically altered until the mid-1800s as Spanish colonization, Mexican land grants, and finally the western settlers takeover and settlement pushed Indians into the rugged California interior. The California Gold Rush of 1849 and the influx of Euro-Americans into formerly remote regions of California was the final cultural blow for many California Indians, including the Miwok bands located in the CPP vicinity. Both mining and agriculture/ranching activities later dominated the project vicinity.

Archaeological Monitors

CPP will have archaeological monitors on site during ground disturbance, including earth-moving activities, clearing, grading, drilling, and trenching. The Archaeological Monitor will observe all activities involving native soil disturbance in areas where buried cultural resources may exist. It is the monitor's job to evaluate any cultural resources discovered during construction activities, and to stop work on the project if any important cultural resources are discovered.

The kinds of cultural resources that may be discovered at the CPP site include prehistoric artifacts such as grinding stones, arrowheads, and stone flakes, and historic artifacts such as glass bottles, metal objects, animal bones and possibly building foundations. Human skeletons may also be exposed.

In addition, cultural materials and locations attributed to Hispanic, Asian, and other ethnic or racial groups may also be considered important cultural resources.

Examples of Cultural Resources

The following are examples of cultural resources that could be uncovered in the project area. The first seven examples are all stone tools shaped for specific functions.

The first example is a small *hammer stone*. Hammer stones were used for a wide range of tasks and may show wear at one or both ends.

<insert picture of hammer stone>

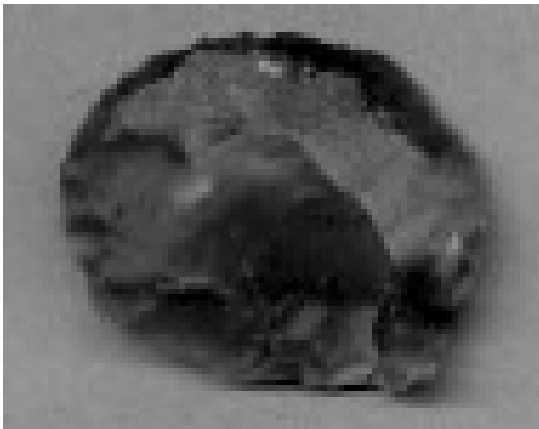
Flaked cobbles were used for scraping, digging, or cutting. They can occur in a variety of shapes and sizes with a smooth end for holding.

<insert picture of flaked cobble>

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Scrapers had a variety of uses including preparing animal skins, shaping wood, or preparing food. Depending on their function, scrapers come in many shapes and sizes.



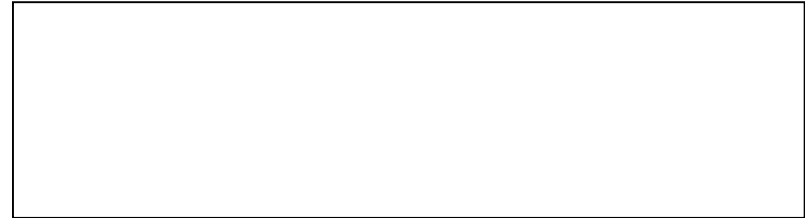
<insert picture of scraper>

Lithic debitage, or *chips*, are the waste material of tool making. Chips are often found in a pile where the tool maker was working.



<insert picture of chips>

Flaked knives are very distinctive and easily identified by shape



and flaking pattern. Flaked knives can be found in a large number of shapes and sizes.

<insert picture of flaked knives>

Projectile points are also very distinctive, and are commonly referred to as *arrowheads*. Projectile points can range in size from one to six inches long and several inches wide.

<insert picture of arrowheads>

The mortar and pestle were used together as a grinding tool. They were used to prepare foods, pigments, medicines, and potions.



<insert picture of mortar and pestle>

Other historic artifacts that may be present include glass bottles, ceramics, metal cans and other metal objects, including

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wire, nails, and building hardware, as well as the remains of former building foundations and underground utilities.

<insert pictures of bottles, ceramics, or metal objects>

Your Responsibility

If an Archaeological Monitor is present when a cultural resource is exposed, he or she will direct you to stop work at the location of the “find.” Stopping construction in the vicinity of an archaeological find is an important condition of the CPP project’s permit from the California Energy Commission and one with which we expect you to comply. Work may be stopped for only a few minutes, or it may be shut down for an extended period of time, depending on what is found.

If an Archaeological Monitor is not present when a cultural resource is found, it is your responsibility to stop work and notify the Construction Supervisor immediately. The Construction Supervisor will then be responsible for notifying the CPP Compliance Manager that the Archaeological Monitor is needed on site as soon as possible to evaluate the find. Mark the location of the find and block off access to it until the Archaeological Monitor arrives. You can use readily available materials such as barrier fencing, barrier tape, or traffic cones to ensure that construction workers and equipment do not enter the area of the find until it has been evaluated. The area of the find must be protected from potential damage to cultural resources that could be caused by construction activities.

It is illegal for you to collect any objects, including old bottles, from public land according to the California Public Resources Code (sections 5097.5 and 5097.9). Disturbing Native American burial sites is a felony under California Public Resources Code Section 5097.99. In addition, the deliberate destruction and removal of cultural resources on private land is prohibited under the conditions of CPP’s permit from the California Energy Commission. The following state and

Federal laws and regulations affect the management of cultural resources:

- Archaeological Resources Protection Act
- National Historic Preservation Act
- California Environmental Quality Act
- California Public Resources Code (Sections 5097.5, 5097.9, and 5097.99)

Only authorized personnel may handle cultural resources. Notify the Archaeological Monitor or Construction Supervisor if you think you may have found a cultural resource. Do not touch or move the object.

If you have any questions about these procedures, please ask your Construction Supervisor or Archaeological Monitor for more information.

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Paleontological Resources

Paleontological resources are the fossilized remains of prehistoric plants and animals. The project area comprises several different geological formations with the potential to contain significant paleontological resources. The Laguna Formation has yielded fossil remains at numerous sites in the Central Valley. These remains include petrified wood and the bones and teeth of a diversity of extinct land mammals. During a field survey near the project site, weathered bones of small land mammals, silicified wood, burrow casts, and root casts were found. A Pleistocene horse (*Equus*) tooth was collected from approximately sediments near Herald in the Riverbank Formation. These fossil remains are highly significant because the taxa they represent previously had been very rarely reported from the fossil record of California. The Modesto formation may yield mammoths, bison, horses, camels, ground sloths, and various rodents

Since fossils are the remains of plants and animals that are now extinct, they are nonrenewable resources. If they are destroyed, the evidence of these extinct plants and animals is gone forever, along with evidence of the type of environment and climate in which they lived. To ensure that fossils will be available for future generations to study and enjoy, fossils are protected by both state and federal laws and regulations. For this project, the California Energy Commission requires that all important fossils be salvaged and preserved in a public museum.

A Paleontological Monitor will be on-site during excavation of native soil that might contain fossils. When a fossil is discovered, the Paleontological Monitor will evaluate it to determine whether or not it is a significant find. The Paleontological Monitor will have the authority to stop work on the project. You should follow the Paleontological Monitor's instructions for protecting and preserving any

fossils found. If you find a fossil, leave it where it is and notify your Construction Supervisor or the Paleontological Monitor. Mark off the area of the find until the Monitor can evaluate it. If you have any questions about these procedures, please ask your Construction Supervisor or the Paleontological Monitor for more information.

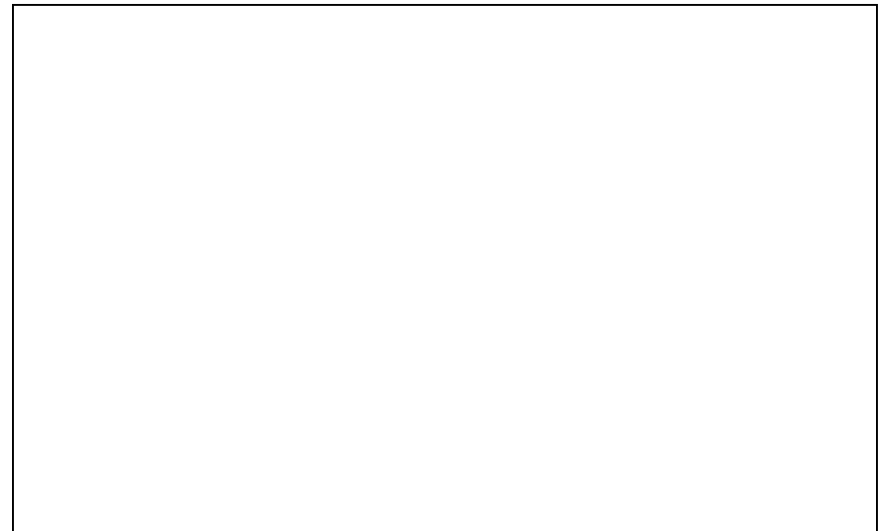
Examples of Paleontological Resources

Some examples of fossils that may be found on the project site include the teeth, bones, or skulls of bison, horses, camels, and mammoths.

<insert pictures of horse teeth, camel teeth, leg bones of horse, leg bones of camel, skull of ground sloth, and skull of camel>

Your Responsibility

CPP is committed to the protection of fossil resources. It is your duty to help with this protection effort. If you think you

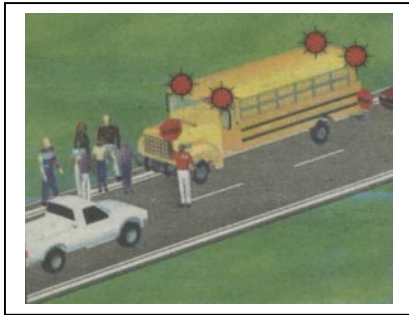


have found a fossil, ask your Construction Supervisor to notify

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the CPP Compliance Manager and/or the Paleontological Monitor so it can be evaluated as quickly as possible.

There is the potential for anyone to find paleontological resources on the CPP construction site. These resources have considerable value to us all and once removed, that value is diminished. Protect yourself, your supervisor, and your company from legal and financial liability by reporting all possible finds of historic and prehistoric remains.



Traffic and Transportation Safety

Construction of the CPP will temporarily increase heavy vehicle and truck traffic along Twin Cities Road, and parts of Clay East Road. The region is generally served by rural two-lane roads with narrow shoulders and few passing lanes that must accommodate agricultural, residential and commercial traffic. CPP is committed to maintaining safe conditions for all motorists using these roads.

The communities of Herald, Clay and Clay East road are served by daily school busses that collect and drop off students twice a day. You may come upon a school bus that is stopped and flashing yellow lights. This is a warning to prepare to stop. When you come upon a school bus stopped on either side of an undivided road with flashing red lights, you must stop to allow schoolchildren to cross. Remain stopped as long as the red lights are flashing. Failure to do so is a violation of Vehicle Code Section 22454 and is subject to fines, license suspension and removal from the project.

Be especially observant for school buses, children and pedestrians on Twin Cities and Clay East Roads

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Contact Personnel

Cosumnes Power Project

Project Manager – Kevin Hudson (916)732-7101;

Cell: _____

Compliance Monitor – [name] Phone no. [_____]

Health and Safety Coordinator – Pat Frost (916) 732-6226

Plant Field Construction Manager Bob Nelson (916)732-5139

Pipeline Field Construction Manager Joseph Pennington (916)732-6915

Biological Monitors

Designated Biologist – Name [phone no.]

Biological Monitor – Name _____ Phone No.

Cultural Resources Monitors

Designated Cultural Resource Specialist – Dr.

Cultural Resources Monitor -

Cultural Resources Monitor -

Paleontological Resources Monitors

Designated Paleontologist- [name] Phone no. [_____]

Paleontological Monitor - [name] Phone no. [_____]

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Certification of Completion of Worker Environmental Awareness Training Program for CPP

This is to certify these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Training Program (WEAT) to include Cultural, Paleontology & Biology, for Construction Crew and Construction Supervisors on site. By signing below, the participant indicates that they understand and shall abide by the guidelines set forth in the Program materials. Please include this completed form in your Monthly Compliance Report.

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No.	Employee Name	Company	Signature
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Cultural Trainer: _____
Signature: _____ Date: __/__/__

PaleoTrainer: _____
Signature: _____ Date: __/__/__

Biological Resources Trainer: _____
Signature: _____ Date: __/__/__

Traffic Safety Trainer
Signature: _____ Date: __/__/__